

## **SYSTEM FOR DISPLAYING, STORING AND RETRIEVING IMAGES**

### **FIELD OF THE INVENTION**

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C1 7

The present invention is directed to the field of storing and displaying print images, for identifying the source from which the images originated, and for storing the source of the original image.

### **BACKGROUND OF THE INVENTION**

Typically, consumers receive individual photographic prints from photofinishers and the film negative from which the prints were made. The film negatives may be provided in cut strips loosely with the prints, or may be provided in a film cassette having a cartridge ID if the prints were obtained from APS film (Advanced Photographic System, recently introduced). The loosely provided prints tend to make it difficult for the owners to store or view the prints. When prints provided from APS film are returned to the customer, index prints are also provided. The index print allows the identifying and locating of particular images returned in the APS film cartridge. This, of course, provides an added print at added cost to the photofinisher.

In U.S. Serial No. 08/455,770, filed May 31, 1995, entitled "Dual Sides Photographic Album Leaf and Method of Making," there is disclosed providing to the customer one or more album leaves containing the images on the roll of film. These leaves may be used to provide all of the service prints present on the negative filmstrip. However, it is difficult to relate the images on the album page to the individual negatives from the roll of film from which it originated. The customer must first sort through the separate index prints returned to the customer, which may not be conveniently located.

Applicants have invented an improved album page and system for displaying, storing and retrieving of images which overcomes many of the storing, displaying and retrieving problems of the prior art.

### **SUMMARY OF THE INVENTION**

The present invention is directed to overcoming one or more of the problems set forth above. According to one aspect of the present invention, there is provided an album leaf having a first side and a second side, the first side

having a plurality of images formed thereon, and a first icon for identifying a first source from which at least one of the plurality of images originated.

In accordance with another aspect of the present invention there is provided a system for displaying, storing and retrieving images, comprising:

50 ~~sub C2~~ > an album leaf having a first side and a second side, the first side having a plurality of images formed thereon, and a first icon for identifying a first source from which at least one of the plurality of images originated; and

a binder for containing a plurality of the album leaves, the album having a plurality of retaining means for holding items containing the original  
10 source of the images contained in the album leaf.

In accordance with another aspect of the present invention there is provided a system for displaying, storing and retrieving images, comprising:

50 ~~sub C3~~ > an album leaf having a first side and a second side, the first side having a plurality of images formed thereon and an icon for identifying a first  
15 source from which the at least one of the plurality of images originated;


a binder for containing a plurality of the album leaves; and  
a retaining album leaf having a plurality of retaining means for holding items containing the original source of the images contained in the album  
leaf.

20 ~~sub C4~~ > In accordance with yet another aspect of the present invention there is provided a source retaining album leaf for placement in a binder having at least one album leaf placed therein, the album leaf having a first side and a second side, the first side having a plurality of images formed thereon and a first icon for identifying the a first source from which at least one of the plurality of images on  
25 the first side originated, the source retaining album leaf having a plurality of retaining means for holding items containing the original source of the images contained in the album leaf.

50 ~~sub C5~~ > In another aspect of the present invention there is provided an image-bearing media having a first side and a second side, the first side having at  
30 least one image formed thereon and a first icon for identifying a first source from which at least one image originated.

In still another aspect of the present invention there is provided a system for displaying, storing and retrieving images, comprising:

an image-bearing media having a first side and a second side, the first side having at least one image formed thereon originating from a first source  
5 and an icon for identifying the first source of the at least one image; and

 a binder for containing a plurality of the album leaves, the album having a plurality of retaining means for holding items containing the original source of the images contained in the album leaf.

The above, and other objects, advantages and novel features of the present invention will become more apparent from the accompanying detailed description thereof when considered in conjunction with the following drawings.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

In the detailed description of the preferred embodiments of the invention presented below, reference is made to the accompanying drawings in which:  
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Fig. 1 is a front elevational view of an album leaf made in accordance with the present invention;

Fig. 2 is a back elevational view of the album leaf of Fig. 1;

Fig. 3 is a perspective view of a sheet of photographic material illustrating how the album leaf of Figs. 1 and 2 may be formed;  
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Fig. 4 is a perspective view of a photographic album containing a plurality of album leaves made in accordance with the present invention; and

Fig. 5 is a perspective view of an album leaf for holding a plurality of film cartridges, each containing a strip of photographic film.

#### **DETAILED DESCRIPTION OF THE INVENTION**

The present description will be directed in particular to elements forming part of, or in cooperation more directly with, the apparatus in accordance with the present invention. It is understood that elements not specifically shown or described may take various forms well known to those skilled in the art.

Referring to Figs. 1-4, there is illustrated an album leaf 10 made in accordance with the present invention. The leaf 10 includes a first side 12 and a second side 14. The first side 12 includes a plurality of images 15,16,17,18,19 and  
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the second side includes a plurality of images 21,22,23,24,25. Also provided in the preferred embodiment is a plurality of holes 28 in a margin area 29, which can be used for mounting of the leaf in an album. The width d of margin area 29 may be of any desired size. In the particular embodiment illustrated, the width d is about one inch (2.54 cm).

As can be seen by Figs. 1 and 2, the various size images are composed so as to substantially fill the space on each side 12,14. Also, as illustrated, various combinations and sizes of prints may be placed together. For example, as illustrated in Fig. 1, the images 15,16,18,19 are similar in size and whereas image 17 is of a substantially different size format, such as the C, H, and P formats of the Advanced Photo System. It is to be understood that any desired size images and/or number of images may be provided on either of sides 12,14. The images have been either automatically composed by the printing device, or printed in accordance with customer instructions. This can be done by optical printers such as the Kodak S-Series Printer, which prints multiple images on a single web of photosensitive paper. Alternatively, digital printers, such as the Kodak PCD 600 CRT Printer and the Kodak HLT-7720 Continuous Tone Digital Printer, can be used which allows for free form formatting of the images. It is, of course, understood that other type printers, such as laser, thermal, ink jet, or electrophotographic printers, may be used as desired. In the embodiment illustrated, images 15,16,18,19 each have a size of about 3-1/2 inches x 4-7/8 inches, and image 17 is equivalent to a panoramic-type image, which have a size of approximately 3-1/2 inches x 9-3/4 inches. Likewise, on the second side 14, images 21,22,23,24 are substantially equal size, whereas image 25 is of a substantially greater size.

Referring to Fig. 3, there is illustrated a sheet 30 made of an image-bearing media. In the embodiment illustrated, sheet 30 is a photosensitive material. In particular, the photosensitive material is photographic paper, which has an image forming side 32 and a backside 34. As is typical with photosensitive material, the image forming side 32 includes an emulsion layer 33 upon which an image can be formed. The backside of the material merely provides the supporting substrate for holding of the emulsion layer. The sheet 30 has a thickness t. The thickness t may be any thickness desired. Preferably, the thickness t is minimal so that the album page will not be too thick, yet provide the desired rigidity. Generally the thickness t will be in the range of 0.05 mm to

0.5 mm. In the particular embodiment illustrated, the thickness  $t$  is approximately 0.2 mm.

As illustrated in Fig. 3, images 15,16,17,18,19,21,22,23,24,25 have been formed on the image forming side 32 of sheet 30 by an appropriate printer, such as previously described. The images 15,16,17,18,19 have been composed into a first image retaining section 36, whereas images 21,22,23,24,25 have been composed onto a second image retaining section 38. These image retaining sections 36,38 may be sized and configured as desired. Preferably, the image retaining sections 36,38 are designed so as to correspond to the first and second sides 12,14 of leaf 10, respectively. In the preferred embodiment illustrated, a space 43 having a width  $d1$  is provided between first and second image retaining sections 36,38. Also, as preferably illustrated, a fold line 40 about which the sheet 30 is folded is provided in space 43. The width  $d1$  may be any desired size. In the embodiment illustrated, width  $d1$  is about 1.0 inches (2.54 cm). The fold line 40 is preferably located such that the first image section 36 and second image section 38 are substantially co-extensive with each other. As illustrated, lateral edge portions 42,44 are disposed adjacent first and second image sections 36,38, respectively, and placed adjacent each other so as to form the margin area 29 when sheet 30 is folded.

The images sent to the digital printer may be obtained by any desired manner. In the preferred embodiment of the present invention, a digital printer, such as the Kodak PCD-600 CRT Printer, is used so that free form formatting can be easily obtained in accordance with instructions provided by the consumer. The digital data information is representative of the images and can be obtained by scanning original images, either in the form of prints or negatives as is customarily done in the prior art. However, the digital data information may not be limited to images. The digital data information may also contain other information such as text, or the logos, images, etc., which can be added to the scanned data. Also the digital data may be obtained in any desired manner, for example, by computers or other devices which contains digital files such as CDs or from data contained in the magnetics on film. A digital record is formed from the scanned information and any other digital information provided. This digital record is then composed into first and second digital sub-records. The first and second digital sub-records are used to print images in the first and second image retaining sections 36,38, which will correspond to the sides 12,14 of the leaf 10. It is, of course, understood that the images may be composed in any desired manner.

Additionally, any text or other information provided, or manipulation of the data, may be conducted as desired. For example, but not by way of limitation, text, logos, or other images, could be added to the scanned images. Once the appropriate digital records have been formed, printing by the printer can then be performed whereby the images and other text/images present in the digital records are appropriately printed on the photosensitive material. The developed photosensitive material is then taken from the printer where thereafter it is formed into the leaf 10.

Developed photographic material is folded in a manner such that the backsides are brought back against each other and an appropriate adhesive is applied therebetween for securely holding the folded sections together. It is to be understood that the formation of the album leaf may take place in any appropriate manner. U.S. Serial No. 08/455,770, filed May 31, 1995, entitled "Dual Sides Photographic Album Leaf and Method of Making," provides further details by which the leaf may be formed and which hereby is incorporated by reference in its entirety.

As illustrated in Figs. 1 and 2, icons (reference indicia) 50, <sup>64 66</sup>~~52, 54~~ are provided for identifying each of the images (15-25) and the source from which the images originate. In particular, referring to icon 50, it comprises a plurality of silhouettes (an outline representation of the edges) of the actual images 15, 16, 17, 18, 19 provided on the first side 12. Additionally, the icons may be composed of thumbnail (miniature) image representations of the actual images. In particular, there are provided silhouettes 55, 56, 57, 58, 59, each of which refer to the location of its respective images 15, 16, 17, 18, 19. In the embodiment illustrated, the source of the images is a filmstrip contained in a film cartridge having a cartridge ID number. The icon 50 includes an origination (source) identification 60 (ID) for identifying the source of the images. In the embodiment illustrated, the origination ID 60 is the film cartridge ID, which contains the film negative from which the images have been made. This information can be obtained by a variety of sources as previously discussed. For example, when a customer order is received by a photofinisher for printing by the photofinisher, the cartridge ID (which represents the origination ID in this case) may be manually entered into the computer controlling scanning and printing, or can be machine read by any appropriate device for reading such number. Thus, the information relating to the origination of the images may be obtained in any manner desired.

In each of the silhouettes 55,56,57,58,59 there is provided an image ID 61. In the embodiment illustrated, the image ID 61 identifies the location of the image on the source, which in the present embodiment is a filmstrip provided within the film cartridge. In the embodiment illustrated, the numeral represents the frame  
5 number on the filmstrip and the letters represent the format of the image; PAN represents a Panoramic format, CLS represents a classic format, and HD represents a portrait format. Thus, each of the images can be quickly related to a location on the filmstrip contained within a particular film cartridge from which the images originated and its current format. It is, of course, to be understood that  
10 any other identification location system may be provided as desired having any desired number of formats.

Referring to Fig. 2, there is illustrated the second side 14, which has two icons 64,65, each having silhouettes of the images provided on the page. However, since some of the images originated from different sources, each of the  
15 icons are associated with a different source. Thus, icon 64 provides a cartridge ID 68 from which the images 21,24 originated, whereas icon 66 includes a cartridge ID 70 from which images 22,23,25 originated. In the particular embodiment illustrated, it can be seen that different icons are provided for identifying different sources. It is, of course, to be understood that various other systems may be  
20 utilized for identifying different sources for each of the images. For example, the cartridge ID could be somehow provided in each of the image silhouettes, which correspond to the images on that side of the album leaf.

As previously noted, there are provided a plurality of holes 28 in the margin area 29, which can allow the placement of the album leaf in a  
25 loose-leaf binder allowing the individual album leaves to be inserted or removed as desired. It is understood that any other type binder or holder may be used for holding the leaves through the holes 28 or any other binding system may be utilized for holding the leaves.

Referring to Fig. 4, there is illustrated a loose-leaf notebook 72  
30 containing a front cover 74 and a back cover 76 having a plurality of rings 87 for holding of the album containing a plurality of album leaves 10. The rings pass through holes 28 provided in the leaves 10. The back cover 76 contains means for holding a plurality of film cartridges 79, each containing a filmstrip of the images provided in the leaves. In the particular embodiment illustrated, the back cover 76  
35 is provided with a plurality of pockets 84, each designed to hold an individual film cartridge such that the cartridge ID provided on the cartridge will be visible when

that portion of the loose-leaf binder is revealed. Thus, if an individual is viewing the images on the album leaves and is interested in finding the original source reproduction, or for any other purpose, the individual simply opens up to the back and quickly locates the cartridge containing the image of interest.

5                   It is, of course, understood that the cartridges are not required to be held in the magazine, but may be provided in a separate container wherein the cartridge IDs may be exposed or somehow otherwise written on a label placed on the back of the container.

10                   Referring to Fig. 5, there is illustrated a leaf 80 in notebook 72, identical numerals representing like parts previously discussed, for holding a plurality of film cartridges 79 that may be placed within the notebook 72. The leaf 80 includes a plurality of holes 28, which align with the appropriate rings 78 in the binder 72 and is further provided with a plurality of pockets, each designed to receive a film cartridge. Preferably, the pockets 88 are designed such that the film  
15                   cartridges 79 may be snapped in and snapped out as desired. This allows the owner of the album to either place the cartridges directly with the images, or if so desired, place them in a separate or different location from the images. Preferably, as illustrated, the pockets 88 are designed so that the cartridge ID 90 would be visible.

20                   It is to be understood that the retaining means for holding the cartridges may be in any appropriate manner in the leaf or binder, for example, but not by way of limitation, snaps, use of Velcro™, or any other securing means that allows securing and removing of the film cartridge that is currently available, or may become available.

25                   While the image-bearing media in the preferred embodiment illustrated is photographic media, the present invention is not so limited, for example, but not by way of limitation, images formed by laser printers and digital thermal printers can be used to print the images on the image-bearing media.

30                   In the particular embodiment illustrated, the source of the image was a filmstrip contained in a film cartridge, however, the present invention is not so limited. For example, but not by way of limitation, the source of the image may be a photo CD, computer disc, or transmitted from a digital memory source such as PC or other digital memory device. Appropriate source ID may be provided for each of the foregoing sources.



The invention has been described in detail with particular reference to certain preferred embodiments thereof, but it will be understood that variations and modifications can be effected within the scope of the invention.

**PARTS LIST**

10	Album leaf
12	First side
14	Second side
15	Image
16	Image
17	Image
18	Image
19	Image
21	Image
22	Image
23	Image
24	Image
25	Image
28	Holes
29	Margin area
30	Sheet
32	Image forming side
33	Emulsion layer
34	Backside
36	First image retaining section
38	Second image retaining section
40	Fold line
42	Lateral edge portion
43	Space
44	Lateral edge portion
50	Icon
52	Icon
54	Icon
55	Silhouettes
56	Silhouettes

57	Silhouettes
58	Silhouettes
59	Silhouettes
60	Origination identification
61	Image ID
64	Icon
65	Icon
66	Icon
68	Cartridge ID
70	Cartridge ID
72	Loose-leaf notebook
74	Front cover
76	Back cover
78	Rings
79	Film cartridges
80	Leaf
84	Pockets
87	Rings
88	Pockets
90	Cartridge ID